

ABSTRACT OF THE DISCLOSURE

In a DBA (Dynamic Bandwidth Allocation) method for an E-PON including an OLT and ONUs, DBACNs (DBA Control Nodes) corresponding to processes in a tree algorithm are arranged in multi-level stages with the ONUs being in the lowermost stage. DBACNs or ONUs in a specific stage are connected to a DBACN from its immediately higher stage in a tree structure. A process of allowing a DBACN to collect bandwidth request information from DBACNs or ONUs in its immediately lower stage is performed sequentially from the lowermost DBACNs to the uppermost DBACN. The uppermost DBACN allocates the smaller one of a total available allocation-bandwidth and a total requested bandwidth to DBACNs in its immediately lower stage in their priority order. DBACNs, other than the uppermost DBACN, each allocate a bandwidth allocated down from a DBACN in the immediately higher stage to DBACNs or ONUs in the immediately lower stage in their priority order.

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